

APPENDIX C

The following pages present the United States Fish and Wildlife Service Request for Transfer and the Preliminary Concept Report for that agency's use of the property as a National Wildlife Refuge. An updated version of the Draft Concept Plan (dated March 2, 1995) is included.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Bishop Henry Whipple Federal Building
1 Federal Drive
Fort Snelling, MN 55111-4046

IN REPLY REFER TO

FWS/ARW/RE-AP

FEB 10 1994

Memorandum

To: Director (RE)
From: Regional Director, Region 1 *Sam*
Subject: Preliminary Project Proposal for Jefferson Proving Ground

Attached is our Preliminary Project Proposal (PPP) to establish a national wildlife refuge at the Jefferson Proving Ground (JPG) located in Jennings and Ripley Counties, Indiana. Acquisition of JPG would be a very significant opportunity to protect and restore biological diversity in Region 3. I urge you to approve our proposal and enable us to continue the planning process leading to acquisition.

I would like to highlight a few important points in the PPP and stress the need for our quick action. The Department of the Army has advised us that they will retain permanent liability for all contaminants or hazardous wastes and unexploded ordnance. I point out that those issues in no way diminish the fish and wildlife values of JPG. There would be no cost to acquire the property (it would be an interagency transfer), little cost to develop, and annual operation and maintenance costs could be kept at a low level if most of the habitat was allowed to passively revert to a closed canopy forest.

Please expedite the review and decision of this important property. We are prepared to move on promptly with planning pending your approval.

Attachment

PRELIMINARY PROJECT PROPOSAL

November 1993

Jefferson Proving Ground National Wildlife Refuge
Jefferson. Ripley 6 Jennings counties. Indiana

Introduction: This proposal to establish a national wildlife refuge (Refuge) stems from notification to the Fish and Wildlife Service of the pending disposal of excess Department of Army property at Jefferson Proving Ground (JPG) as a result of the Ease Realignment and Closure Act. Under the screening process no other federal agency expressed interest in JPG. This property is scheduled for closure September 30, 1995. An environmental impact study is presently being prepared by the firm JAY under contract from the Department of Army on possible reuse alternatives for the base & fear closure. One alternative in that EIS is the establishment of a wildlife refuge on approximately 53,000 acres that are largely free of development.

Location and Size: The proposed Refuge lies just outside Madison in southeast Indiana. It is about 90 miles southeast of Indianapolis, 50 miles northeast of Louisville, Kentucky, and 65 miles southwest of Cincinnati, Ohio. Omitting the cantonment area with its 400 some buildings and associated developments at the south end of JPG, the proposal would entail nearly 53,000 acres in a solid ownership about 5 miles wide and 15 miles long.

Description of Habitat: JPG lies at or near the head of the watershed of several stream tributaries of the Muscatatuck River. The upland is relatively level and deeply dissected (e.g. 90 feet along Otter Creek) by the southwest trending watercourses. The prevailing habitat is eastern deciduous forest in a range of successional stages from saplings to mature or old growth timber, the latter especially along the streams and steep slopes bordering them. Many of the open fields existing at the time JPG was acquired 50 years ago are reverting to woodlands. Based on just completed CIS cover type analysis, there 30,000 acres of mature forest and 19,000 acres of shrub woodlands. Within these habitats are 6,000 acres of palustrine wetlands. There are 90 miles of permanent and ephemeral streams, and 10 ponds, lakes and reservoirs of up to 165 acres. The expanse of existing woodland with the potential for allowing or managing -remaining open areas to revert to a closed canopy forest and associated understory is highly unusual in the Midwest. It affords an ideal opportunity for restoration management of biodiversity at the community level to benefit among other species interior forest nesting, neotropical migrant birds.

Major Wildlife Values: It is possible the biodiversity ranking for this proposed refuge could exceed that of any of Region 3's presently approved projects on the LAPS list. Endangered species presently using JPG are the bald eagle and Indiana bat, the latter probably breeding. Over 100 species of birds have been documented during the breeding season, nearly 501 of them neotropical migrants. Included among the latter are cerulean and goldenwinged warblers, both of which are also listed among "migratory nongame birds of management concern in the United States. Other species from that list are red-shouldered hawk and Henslow's sparrow. Other indications of wildlife value are 50 species of mussels, 59 species of reptiles and amphibians and 41 species of fish. The foregoing are the results of limited surveys conducted

to date on only a small portion of the base. It is expected future work will document substantially greater wildlife values than are known at this time.

Related Resources: About 30 miles to the northwest is the 7,800 acre Muscatatuck NWR. About 150 miles to the west in Pike and Gibson counties is the Service's proposed 22,000 acre Patoka River National Wetlands Project. The State of Indiana has several areas in proximity to JPG including Clifty Falls and Versailles state parks of 1,300 and 5,800 acres respectively, three other state parks within 100 miles ranging in size from 260 to 15,300 acres; five small state forests in the southeastern part of the state; the Crosley and Atterbury state fish and game areas; and the Hoosier National Forest in southern Indiana to the west of JPG.

Threats: Large blocks of contiguous, closed canopy forest are rapidly disappearing in the face of demand for timber products and changing land use. This phenomenon appears to be detrimental to the well-being of neotropical migrants that nest in forest interiors. Closure of JPG may expose the forested lands to increased clearing and fragmentation for a variety of reuse options that could be considered. Of paramount concern is the threat of extensive logging of mature timber valuable to Indiana bats as well as neotropicals. Present high quality of the stream system would also likely suffer from land uses that would expose soils to erosion. Massive and intrusive cleanup of unexploded ordnance (UXO) would be required for almost any other reuse option. This would be an ecological disaster for the property as it would require clearing and excavation of buried UXO.

Justification and Funding: In 1988 the Service established a formal program to address conservation of nongame birds. In 1990 the Partners in Flight program was initiated to promote conservation of these species and their habitats. Conservation of biodiversity was described as an "overall principle" in the Service's 1991 Vision for the Future. In the Keystone Report in 1991 it was stated "It should be a national goal to conserve, protect and restore biological diversity on federal lands." Biodiversity conservation is an underlying theme in all Service legislative mandates and is one of four principle goals of the NWRS. JPG represents the most significant opportunity yet identified in Region 3 to address this LAPS target in our acquisition program. The base would come to the Service as an interagency transfer, thus no acquisition funds would be required.

Ownership and Type of Acquisition: The property is now owned in total by the Department of Army who is disposing of it under the Base Realignment and Closure Act. Acquisition would be in fee title through interagency transfer.

Initial and Annual Costs: There would be no cost to acquire and probably little or none to develop the area. Operation and maintenance funding might reasonably approximate Muscatatuck NWR. \$350,000 annually. JPG would lend itself well to being an area with entry fee charge. Visitors are charged an entry fee under existing use permitted by the Army. Access is easily controlled.

Contaminants and Hazardous Waste: It is estimated there could be as many as 1,500,000 rounds of UXO on the base. This is all conventional ordnance, no chemical, biological or nuclear weapons were ever tested at JPG. There is an area where depleted uranium (DU) was fired. There are several solid waste

Management Units (SWMU) on that portion of the property proposed for NWR establishment, but they are old cisterns. etc. where quantities of inert ordnance were dumped. The Department of Army is still engaged in discussions with EPA and the Nuclear Regulatory Commission as to required remediation of UXO. SWMUs and DU. However, the Army will retain permanent liability for all contaminants or hazardous substances and UXO problems. Any remediation costs required would be borne by them. UXO is by far the most pervasive hazard on JPG. However, it should not be regarded as an insurmountable barrier to NWR establishment. JPG has been hunted since the 1950s. About 20,000 visitors are accommodated annually. There has never been an instance of visitor injury or accident from UXO. Risk from hunting would be many times greater.

Public Attitude: The JPG Regional Development Board is the local governments' entity established to work with the Army to seek reuse options of the base to secure economic benefits to the local community from the closure of the proving ground. Meetings with them have taken place as well as discussion with congressional staff. The Regional Development Board is concerned that establishment of a refuge on the scale envisioned in this proposal would result in severe economic loss. They have recommended a variety of reuse options that would likely be incompatible with NWR designation. However the feasibility of those uses is highly questionable outside of the cantonment area given the matter of UXO. The Indiana Wildlife Federation, the Hoosier Audubon Council and the Hoosier Environmental Council have endorsed the formation of a national wildlife refuge.

Submitted: W. E. Holt
Chairman, Regional Land Protection Review Committee

2-10-94
Date

Recommended: Sam Mark
Regional Director

10 Feb 94
Date

Approved: _____
Director

Date



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Bishop Henry Whipple Federal Building
1 Federal Drive
Fort Snelling, MN 55111-4056

IN REPLY REFER TO:

FWS/ARW/RE-AP

MAR 28 1994

Mr. Michael G. Barter
Chief, Real Estate Division
Department of the Army
U.S. Army Engineer District, Louisville
Corps of Engineers
P.O. Box 59
Louisville, Kentucky 40201-0059

Dear Mr. Barter:

This letter transmits the formal request for transfer of Jefferson Proving Ground (in part) to the U.S. Fish and Wildlife Service. The request is submitted on GSA Form 1334, original and three copies. We seek transfer without reimbursement as documented on the Form. The property is proposed for addition to the National Wildlife Refuge System. Should you require additional information or wish to discuss the request as hereby submitted, please contact Mr. William Swanson, Senior Realty Officer, of my staff, at 1-800-247-1247.

Sincerely,

Marvin E. Moriarty
Acting Regional Director

Enclosure

REQUEST FOR TRANSFER OF EXCESS REAL AND RELATED PERSONAL PROPERTY	1. GSA CONTROL NO.	PAGE	THIS BLOCK FOR USE BY AGENCY RECEIVING REQUEST DATE REQUEST RECEIVED
	2. DATE OF REQUEST	OF	
	PAGES		
TO: (Name, address and ZIP Code of agency being requested to transfer the property)	FROM: (Name, address and ZIP Code of agency requesting transfer of the property)		HOLDING AGENCY NO. (If any)
Department of the Army U.S. Army Engineer District, Louisville Corps of Engineers, Real Estate Division Special Projects and Support Branch P.O. Box 59 Louisville, Kentucky 40201-0059	Department of the Interior U.S. Fish and Wildlife Service Henry Whipple Federal Building 1 Federal Drive Fort Snelling, Minnesota 55111-4056		ACQUISITION COST \$
			APPRAISED FAIR MARKET VALUE \$
			REIMBURSEMENT \$
3. REQUESTING AGENCY'S REPRESENTATIVE TO BE CONTACTED FOR FURTHER INFORMATION (Name, address and ZIP Code)	4. PROPERTY IDENTIFICATION AND ADDRESS (Include ZIP Code)		
Mr. William A. Swanson U.S. Fish and Wildlife Service (RE) 1 Federal Drive Fort Snelling, Minnesota 55111-4056	Jefferson Proving Ground Madison, Indiana 47250-5100		
REAL PROPERTY REQUESTED			
A. STRUCTURES		B. LAND	C. UTILITIES
USE (1)	NUMBER OF BUILDINGS (2)	FLOOR AREA (Sq. Ft.) (3)	GOVERNMENT'S INTEREST (4)
1. OFFICE	0	0	1. FEE
2. STORAGE	6	17,971	2. LEASED
3. OTHER (Specify)	2	10,614	3. OTHER (Specify)
Old Timbers Lodge and Oakdale School			
4. TOTAL		28,585	4. TOTAL
5. RELATED PERSONAL PROPERTY REQUESTED		6. ARE FUNDS AVAILABLE FOR REIMBURSEMENT FOR THE TRANSFER OF THIS PROPERTY?	
None		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

7. CERTIFICATION

Certification is hereby made that this agency has a need for the property identified above to carry on an approved program; that the transfer thereof to this agency for the purposes indicated would be in accord with the intent of the Congress with respect to such programs; that the requirements cannot be satisfied by better use of this agency's existing property; and that the proposed land use is consistent with FPMR 101-47.201-1 and 201-2. The statement of justification under block 11 below for the transfer of the property requested is complete and accurate.

SIGNATURE	TITLE	DATE
	Regional Director, Region 3 U.S. Fish and Wildlife Service	

8. STATEMENT OF JUSTIFICATION (This statement must include data with respect to all factors covered in FPMR 101-47.4904-1(c) Section 11, Instructions for Preparation of GSA Form 1334.)
The U.S. Fish and Wildlife Service, Department of the Interior requests transfer of approximately 53,000 acres of Jefferson Proving Ground for addition to the National Wildlife Refuge System. It is assumed that the present condition of forests and other vegetative cover and soils will not be appreciably altered in a manner or to a degree that would compromise existing ecological integrity during the interim between our request and the decision to dispose of the property. Attached is the detailed justification for the transfer per 101-47.4904-1 instructions for preparation of GSA Form 1334.

Block 11. Statement of Justification

(See Instructions for Preparation of GSA Form 1334)

- a. Compatibility of Proposed Use with Authorized Program Proposed use of JPG is to manage and conserve migratory birds. endangered species. other indigenous species of wildlife. and allow public use compatible with the foregoing. Management includes restoration and enhancement of habitats upon which wildlife are dependent, it particular eastern deciduous forest. and of the ecosystem and communities of which the wildlife species are a part. This use would be conducted under the program of the National Wildlife Refuge System (NWRS). The proposed use constitutes a virtual restatement of the Goals of the NWRS. The transfer of JPG would not establish a new, unauthorized program nor increase the program beyond a level contemplated by the President's budget or by Congress.

The NWRS program is based upon numerous statutory authorities. among which and upon which the request for transfer of JPG is based are:

- (1) "Federal Property and Administrative Services Act" of 1949 (40 U.S.C. 471-535) as amended;
- (2) P.L. 80-537 Transfer of Certain Real Property for Wildlife Conservation Purposes Act of 1948 as amended;
- (3) P.L. 100-526 "Base Realignment and Closure Act" of 1988.

Other statutory authorities on which the NWRS program is based include: Fish and Wildlife Act of 1956 as amended; Migratory Bird Conservation Act of 1929 as amended; National Wildlife Refuge System Administration Act of 1966 as amended; Refuge Recreation Act of 1962 as amended; and Endangered Species Act of 1973 as amended.

The appropriation supporting the NWRS is the Resource Management Appropriation for the Operation and Maintenance of the NWRS.

b. Internal Screening of Agency Property

All units of the NWRS have documented goals and objectives that are indicative of their contribution to the Mission, and Goals of the NWRS and hence determine their continuing need for inclusion in the System. Should a unit of the System be deemed excess to the requirements of the NWRS, it could only be removed by act of Congress under the National Wildlife Refuge System Administration Act as amended. By nature. the NWRS is an open system that is continually added to as properties become available that can contribute to the System's Mission viz.. "to provide, preserve, restore, and manage a national network of lands and waters sufficient in size. diversity and location to meet society's needs for areas where the widest possible spectrum of benefits

associated with wildlife and wildlands is enhanced and made available."

e. Extent So Which Lands are to be Used

All of the lands that are transferred will be fully utilized for the above described use. This request for transfer does not include that part of JPG known as the "cantonment area" that has numerous buildings and associated infrastructure. The area requested for transfer is defined by the indicated boundary on the attached map. Only that portion of JPG is being requested that would contribute to the Mission and Goals of the NWRS.

d. Estimate of Acquisition Cost of Other Suitable Property

Based on an estimated average per acre cost of \$500, to purchase 53,000 acres would run \$26,500,000 for equivalent property. However, from an ecological standpoint, there is no equivalent property in the region surrounding JPG. Further, given the presence of unexploded ordnance (UXO), without remediation (that would cost many times any possible land value) it seems unlikely that JPG could be sold no matter how low the price. Thus it is concluded that any purchase price for alternate, comparable land would greatly exceed the possible sale price of property at JPG.

e. Economies to be Effected

It is our understanding in making this transfer request that the military would retain permanent liability for all UXO and other contaminants on JPG. Further, should remediation become legally mandated, any costs would be borne by the Army. It is assumed that any reuse that would be intrusive or allow unconstrained public access would require UXO remediation to avoid liability. Such clean up would be enormously expensive. However, for the use which this transfer entails, the UXO can be considered ecologically benign and would not require remediation. Limited use by visitors would be carefully regulated, such as has occurred under administration by the Army for almost 50 years.

f. Advise re Program Curtailment/Termination

There is no plan either by the Executive Branch nor by Congress to curtail or terminate the program of the National Wildlife Refuge System.

g. Other Pertinent facts

The following buildings appear to be able to contribute to carrying out the identified use of JPG in support of the NWRS program. The list is preliminary, further planning is necessary to determine exactly which buildings are wanted for transfer. All buildings not requested for transfer would be expected to be disposed of by the Army. We propose a team of Service and Army staff identify which buildings be transferred to the Service.

Old Timbers Lodge

JPG Facility 004855 9614 sq. ft

Oakdale School	00401	1000 sq. ft
Truck Inspect. Bldg	00194	420 sq. ft
Pole barn on K Rd	00474	4107 sq. ft
IANG Pole Barn	00482	2'00 sq. ft
Pole barn Open Side	00193	5260 sq ft
Pole Barn Chaffee Rd '	00444	3224 sq. ft
Pole Earn K Rd & 1'1W	00475	2560 sq. f t

h. Proposal to Obtain Transfer Without Reimbursement
Documents required under 101-47.203-7(f)(2)

See attached certification that there are no funds available for reimbursement for JPG. that to reimburse the Amy would require transfer of funds from other Service programs.

The basic authority under which the Service seeks transfer of JPG without reimbursement is P.L. 80-537. The Transfer of Certain Real Property for Wildlife Conservation Purposes Act. This statute provides that real property no longer needed by a Federal agency can be transferred to the Secretary of the Interior without reimbursement if the land has particular value for migratory birds.

i. Coordination with State, Regional and Local Entities








The Fish and Wildlife has been and continues to be in regular contact with the State and the JPG Regional Development Board in an effort to coordinate potential reuses of JPG. The Service is working with those parties to attempt to accommodate feasible reuse that will mitigate the economic impact of the base closure on the community, and at the same time secure the preservation of the ecological integrity of the undeveloped part of JPG.

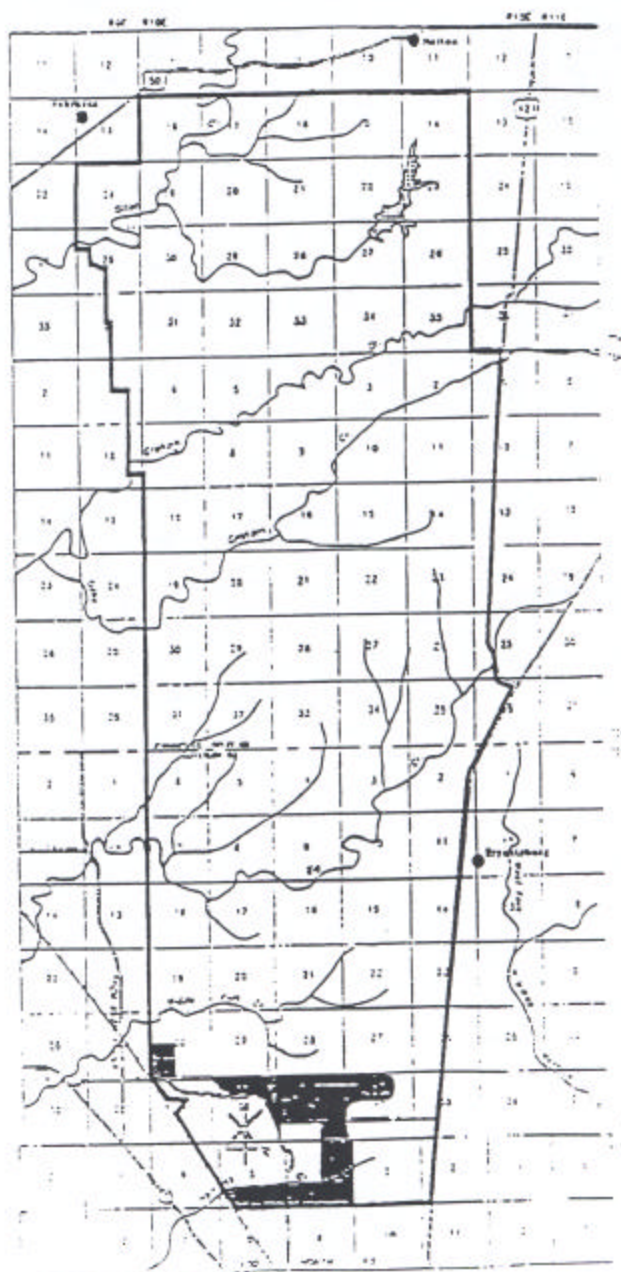
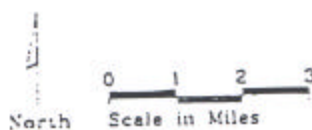
j. National Historic Preservation List Eligibility JPG ha: not been systematically surveyed for cultural resources meeting the criteria for the National Register of Historic Places. The Oakdale School is on the Register. Other structures as well as historical and archeological sites say be eligible for the Register. Transfer of Federal real estate from one Federal agency to another results in no legal change to protection, preservation and consideration of historic resources. FWS has in place institutionalized processes to ensure compliance with Section 106 of the National Historic Preservation Act and the implementing regulations in 36 CFR Part 800 including qualified professional historic preservation staff for analysis and evaluation, consultation with the State Historic Preservation Officer, the Advisory Council on Historic Preservation and interested persons, and application of appropriate techniques for preservation and mitigation as appropriate.

LOCATION



LEGEND

-  Current Military Boundary
 Land Not Included in FWS Proposal
 Roads
 Rivers
 Open Water
 Town
 Railroad





United States Department of the Interior

FISH AND WILDLIFE SERVICE
Bishop Henry Whipple Federal Building
1 Federal Drive
Fort Snelling, MN 55111-1056

REPLY REFER TO

FWS/ARW/RE-AP

March 23, 1994

Mr. Michael C. Barter
Chief, Real Estate Division
Department of the Army
U.S. Army Engineer District, Louisville
Corps of Engineers
P.O. Box 59
Louisville, Kentucky 40201-0059

Dear Mr. Barter:

This Certification is furnished as a part of the U. S. Fish and Wildlife Service request for transfer of the real property identified as Jefferson Proving Ground (in part or about 53,000 acres) Madison, Indiana.

Pursuant to the provisions of subpart 101.47, 203.7(f)(2)(ii) of the Federal Property Management Regulations, I hereby certify that:

The U. S. Fish and Wildlife Service has no funds appropriated for this purpose and cannot make funds available from other projects in order to make reimbursement for the transfer of the property.

Wm. A. Swanson
Senior Realty Officer
Division of Realty

Proposed
Jefferson Proving Ground
National Wildlife Refuge

Preliminary
Concept Report

National Wildlife Refuge -- Preliminary Concept Report
Jefferson Proving Ground October 22, 1993

INTRODUCTION Review was made of the Jefferson Proving Ground which is available under the Base Closure and Realignment Act. The U.S. Fish and Wildlife Service (FWS) is the only federal agency that has indicated an interest in acquiring the area. For the purpose of this proposal, the FWS is considering approximately 53,000 acres which excludes the cantonment area where the majority of the post's over 400 buildings are located.

The Service has the opportunity to acquire an expansive area of eastern deciduous forest. The property has been under the single ownership of the Department of Army (DOA) since establishment of the proving ground since 1940. Transfer of the lands from DOA to FWS at some point in time would greatly simplify acquisition and avoid those conflicts associated with purchasing private lands. The FWS assumes that the DOA will retain, in perpetuity, the liability for all contaminants and unexploded ordnance located on the base. Furthermore, the area contains known endangered species, and suitable habitat exists for others.

LOCATION AND SIZE

Jefferson Proving Ground (JPG) consists of 55,264 acres located in Jefferson, Ripley, and Jennings Counties in southeast Indiana. It is located along U.S. Highway 421 within five miles of Madison, Indiana, a city of approximately 13,000 persons. It is located within 90 miles of three large metropolitan areas - Cincinnati, Ohio; Indianapolis, Indiana; and Louisville, Kentucky. The surrounding area is principally rural with the vast majority characterized as agricultural. The installation is fenced around its approximate 50 mile perimeter to prevent public access and provide for public safety.

DESCRIPTION OF HABITAT

Predominant habitat types are forested uplands, bottomland hardwoods, wet flatwoods and frequently burned meadows. Historically, the majority of the area consisted of forest, predominately flatwoods. These are forested areas occurring on level, poorly drained soils, with a shallow, perched water table. Most of this forest type in southeast *Indiana and* southwest Ohio has been cleared for cropland. This property is the largest, intact tract of flatwoods remaining, with pin oak, sweetgum, and red maple predominating. Dominant species in other woodlands include sycamore, black gum, tuliptree, oaks, hickories, and beech.

Six major streams of the White River Basin cross the area. The quality of the aquatic habitat and fish communities of these streams is high due to the relatively undisturbed state of the stream channels and watersheds.

The southwest corner of the property contains approximately 700 acres of fire-dependent flat meadow land. The meadows support an amazing variety of both upland and wetland plant species, including a diversity of orchids. This habitat also is home to at least two candidate species for federal endangered listing.

MAJOR WILDLIFE VALUES A total of 102 species of birds recently have been identified as nesting on the property. Many of those species are neotropical migrants. Of 12 bat species known to occur in Indiana, seven were captured on the area during limited surveying. Because of the diversity and extent of habitat types, the area is likely to harbor an abundant bat community. There appears to be an unusually rich diversity of reptiles and amphibians. Due to the high quality of streams, there is an abundance of fish species,

including benthic species, insectivorous minnows, and game fish. Though not comprehensively surveyed, mussels have been observed in all the major streams. The bald eagle and Indiana bat are presently found on the area. Additionally, limited surveying has identified three Federal candidate species, and 41 State listed plant and animal species.

RELATED RESOURCES

The area is rich in both natural and cultural values. The relatively undisturbed northern section represents an area of sufficient acreage and quality to be considered for nomination for national wilderness designation. Adequate significance exists to warrant consideration of other federal designations, including that for research natural area, wild and scenic river, archaeological and historic sites. The Oakdale Schoolhouse is on the National Register of Historic Places.

PUBLIC USE

Traditionally the JPG has been operated in a very restrictive nature because of the safety risks associated with the unexploded ordnance (UXO). This risk will continue and public use activities will be governed by the necessity to provide visitor safety.

Currently JPG receives 20,000 annual visits from military personnel and guests, civilian employees and guests, and other military sponsored visitors. All these visitors are cognizant of the associated safety risks associated with the UXO through institutional knowledge or by a required pass system. It is expected that the current recreational activities like hunting, fishing, camping, picnicking and lodge use would continue. With the designation of JPG as a National Wildlife Refuge visitation will increase to a potential of 100,000 visits annually. As visitation increases, corresponding access management actions would also be required.

In order to assure visitor safety the Service will need to continue or develop a visitor access program open to all refuge visitors. This program would provide necessary visitor information, access restrictions, and enforcement activities. Generally through a system of passes, access limits, user and admission fees, visitor access can be managed.

UNRESOLVED ISSUES

According to preliminary investigations three issues of concern relating to uncharacterized hazardous or special waste exist. No investigations are planned as of now for site characterization of UXO's north of the firing line. The current Remedial Investigation/Feasibility Study includes only areas south of the firing line. Estimates range in excess of 1.5 million round of ordnance exist in the north area with no perceived need for remediation. Further investigations need to be conducted.

JPG also has over 36 Solid Waste Management Areas (SWMU's). These SWMU's are not fully characterized but some known contaminants include UXO's, lead based paints, solvents, and acetone exist. Groundwater contamination of acetone and bis(2-ethylhexyl)phthalate has been identified in the vicinity of gate #19. Further studies are being conducted.

A Decommissioning Plan is being required by the Nuclear Regulatory Council NRC for the 800 acres that are "contaminated" with spent Depleted Uranium (DU). Army has had a study done that indicated radiation levels from DU are less than background levels in the soils, and will contract for the plan. NRC :gay require intrusive remediation of this area.

In the event that remediation for hazardous wastes is required by law the potential exists for remediation levels being more stringent as a result of a National Wildlife Refuge designation.

PROJECT PURPOSE

1. Restore and manage the eastern deciduous forest ecosystem through the conservation and enhancement of floral and faunal biodiversity.
2. Conserve endangered species and their habitats.

OBJECTIVES

1. Maintain watersheds and stream channels for fish and wildlife habitats.
2. Manage forested uplands, till-plain flatwoods, and forested wetlands for a closed canopy forest.
3. Restore and manage habitats for endangered plant and animal species.
4. Secure public and employee health and safety from unexploded ordnance on the refuge.
5. Provide compatible public wildlife recreation and environmental education.
6. Protect areas of cultural and natural significance.
7. Manage for interior forest nesting of neotropical migrants.
3. Manage the fire-dependent grassland located in the southwest corner of the post.
9. Provide extension services for the enhancement of deciduous forest management on private lands for wildlife benefit.

NATIONAL WILDLIFE REFUGE PROPOSAL

Jefferson Proving Grounds

OBJECTIVES

1. Maintain watersheds and stream channels for fish and wildlife habitats.
 - Maintain healthy aquatic organisms
 - Maintain riparian vegetation and forested watershed
 - Maintain natural channel configurations including structural habitat such as boulders and woody debris .
 - Manage pond/lakes for fishery resources
2. Manage forested uplands, till-plain flatwoods, and forested wetlands for a closed canopy forest.
 - Re-forest interior open areas
 - Reduce maintenance mowing of roads and firebreaks
 - Abandon some firebreaks and roads
 - Prescribe burn as biological control (e.g., cedar)
3. Restore and manage habitats for endangered plant and animal species.
 - Maintain Indiana bat maternity nesting trees
 - Maintain unfragmented forested stream acreage for Indiana bat roosting and foraging areas
 - Retain some bunkers pending determination of use by endangered bats
 - Protect bald eagle habitat; retain suitable nesting areas
 - Include consideration for management of State listed threatened and endangered species.
4. Secure public and employee health and safety from unexploded ordnance on the refuge.
 - Restricted military areas will continue to be closed to public use. Maintain perimeter fence.
 - Trained staff may access some restricted areas for non-intrusive management activities.
 - Cooperatively address research/remedial military activities to increase habitat management
5. Consider public wildlife recreation and environmental education where compatible and contributory to refuge objectives.
Activities could include:
 - Hunting -- increased opportunities
 - Fishing -- increased opportunities for boat and bank, including accessible sites
 - Morel mushroom and berry picking
 - Visitor Center -- would include functions normally provided at nature centers, cultural information (archaeological and historical), and the military (DOD) association
 - Nature Study/Photography

Appendix A cont.

- Extension/Educational Outreach
 - on site programs and materials
 - off refuge programs in schools, etc.
 - teacher workshops
 - educational technical assistance
- Canoeing (seasonal)
- Hiking (backpacking)
- Touring (guided / self-guided / commercial)
 - motorized vehicles
 - foot
 - bicycle
- Public Information and Public Relations
 - informational literature
 - interpretive programs
 - special events

6. Protect areas of cultural and natural significance.

DESIGNATED AREAS - possible for nomination

- Wilderness Area
- Wild and Scenic River (creek(s))
- Archeological Sites -- numerous sites
- Historic Sites
 - school -- designated
 - bridges
 - Old Timbers Lodge
 - farmsteads
 - townsite
 - mills, etc.
 - Morgan's Raid cavalry route and capture site
 - caves (underground railroad)
 - cemetery and church sites
 - military (?)

7. Manage for interior forest nesting of neotropical migrants.

- Re-forest interior open areas
- Reduce maintenance mowing of roads and firebreaks

8. Manage the fire-dependent grassland located in the southwest corner of the post.

- Conduct prescribed burning activities

9. Provide extension services for the enhancement of deciduous forest management on private lands for wildlife and-watershed benefits.

DRAFT



Department
of the
Interior

United States
Fish and Wildlife
Service (Region 3)

March 2, 1995

Draft Conceptual Management Plan for the Proposed Jefferson National Wildlife Refuge

(Revised 3/2/95)

L EXECUTIVE SUMMARY

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Executive Summary

Approximately 47,000 acres of the closed military base known as the Jefferson Proving Ground, located in southeast Indiana, is proposed for inclusion into the National Wildlife Refuge System. The area will become the Jefferson National Wildlife Refuge (proposed refuge).

Much of the proposed refuge contains unexploded ordnance and other contaminants including depleted uranium rounds. The existence of these contaminants causes safety, management and funding concerns that have to be evaluated prior to accepting the area into the National Wildlife Refuge System. The Department of the Army (Army) currently does not plan to seek funds for cleanup and proposes to leave most of the unexploded ordnance in place. Unexploded ordnance removal in high density areas would be devastating to the environment and the cost of such an undertaking would be prohibitive. The Army supports the transfer of the area based on the position that surface use as a wildlife refuge can be compatible with minimal cleanup of unexploded ordnance. Other contaminants will be cleaned up at the Army's expense.

The U. S. Fish and Wildlife Service (Service) is currently unable to address safety issues of this magnitude. However, because of the high natural resource values associated with the property, it is a good candidate for a refuge if the Army is willing to support long-term costs related to public safety.

The Service has developed this Draft Concept Plan for public use and refuge management. Two other documents will be necessary for the transfer of the property: a Transition Plan and an Interagency Agreement. Draft versions of these documents will be presented to the Army for review so that details can be worked out that are best for the two agencies.

The Draft Concept Plan for the proposed Jefferson Refuge is summarized by the following points:

1. The refuge requires aggressive safety program and relatively passive resource management. Because of safety and environmental concerns, soil disturbing activities including, construction, logging and off-road vehicle use will be prohibited.
2. All public activities on the refuge will be controlled. Visitor activities will be confined to two zones identified by the Army 1) Limited Use Zone and 2) Deer Hunting Zone. Visitor activities will be monitored and enforced.
3. Physical facilities, such as the perimeter fence, parking vehicle barriers, gates and signs will be added and maintained.
4. Information and education will play a significant role in the safety of visitors at the refuge. A combination of formal training, displays, brochures and signs will be used to educate visitors, staff and volunteers.

The next five years will be important transition years for converting this area from proving ground to national wildlife refuge. Sorting out the implications of unexploded ordnance related to management of a new refuge is best done in partnership between the Army and Service. Overlapping responsibilities for this area calls for coordination, cooperation and a phased implementation of the plans.

SECTION 1. BACKGROUND/STATUS

1.1 The Refuge Proposal:

The proposed Jefferson National Wildlife Refuge is among the most unique initiatives in military base closures in the United States. Approximately 47,000 acres of a decommissioned military base located in Jefferson, Jennings and Ripley counties in southeast Indiana, are proposed for inclusion into the National Wildlife Refuge System.

The area, commonly known to locals as the Jefferson Proving Ground (JPG), is scheduled for closure, September 30, 1995. The closure is the result of the Base Realignment and Closure Act of 1988 (BRAC). Refuge status could be attained as early as September 30, 1995. However, because of the many issues associated with its cleanup, the refuge may not be established for several years.

The proposed refuge contains large acreage of eastern deciduous forest in a range of successional stages from saplings to old growth forest. The forest habitat is interspersed with wetlands and deeply cut scenic stream corridors. Wildlife values of the property are many including extremely high plant and animal biodiversity, endangered species, endangered species habitat and large undeveloped blocks of forest valuable to neotropical migrant birds that inhabit forest interiors.

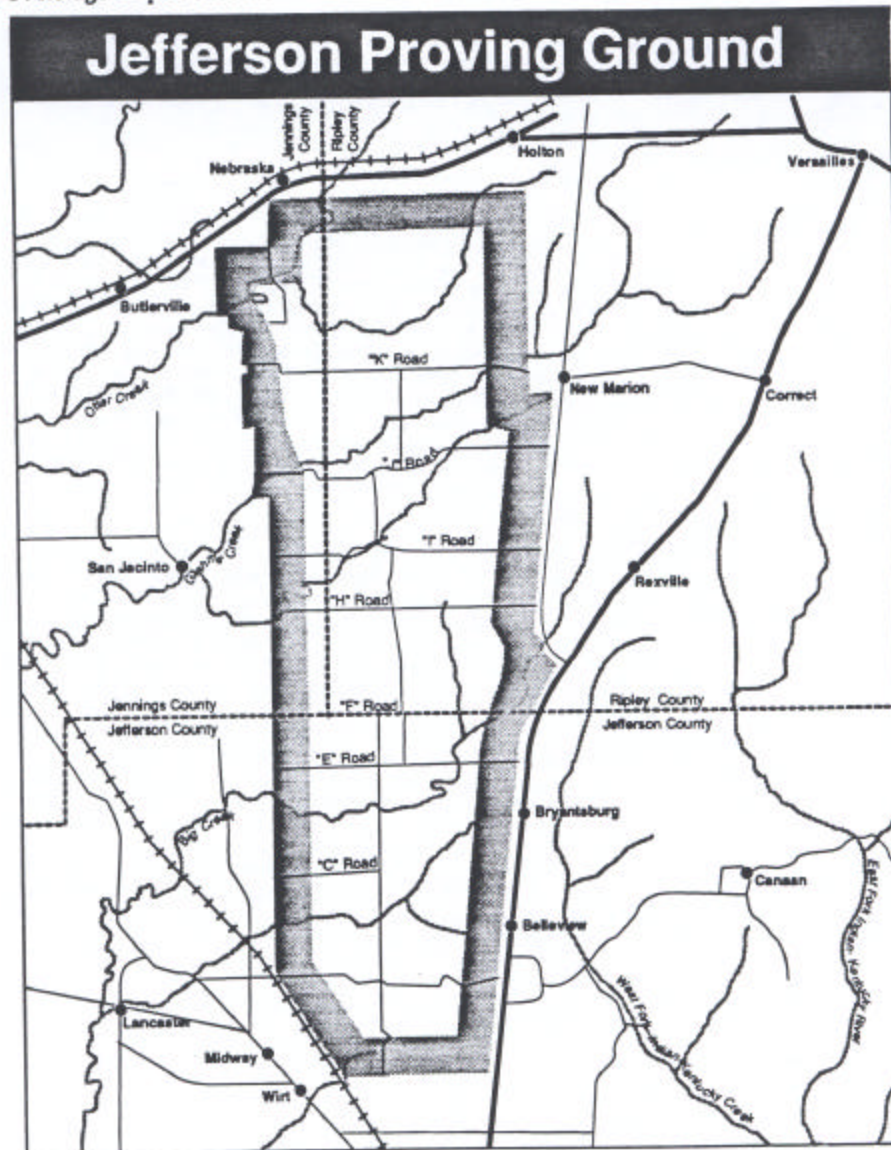
Since 1993, the U. S. Fish and Wildlife Service (Service) has actively pursued transfer of the property as a wildlife refuge. In December 1994, the Service formed a planning team to prepare a presentation for the Defense Department Explosives Safety Board (DDESB). This report is generated for the purposes of that presentation but goes beyond to fulfil other Service needs as well.

The Draft Concept Plan has three primary functions:

- 1) Document proposed short and long term levels of public use and wildlife management that are compatible with site hazards and consistent with the Refuge Administration Act. The Final Concept Plan will become part of the decision document presented to the Regional Director for approval.
- 2) Provide a Refuge Concept Plan for presentation to the DDESB.
- 3) Provide a Refuge Concept Plan for input into the Army's final BRAC Cleanup and Remediation Plans.

An on-site meeting was held December 14-16, 1994 with the base Commander, Colonel Terry M. Weekly and members of his staff. Subsequent to those meetings, several issues were identified as well as a list of key documents which relate to the closure of the base and the establishment of the refuge. A second meeting was held with Colonel Weekly on January 25, 1995 to present the Service's Draft Concept Plan for the refuge. It was decided at that meeting to elevate funding issues to the Washington level.

Map 1 : Refuge Proposal/Location



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1.2 Agency Documents

Outlining the various planning documents is helpful in understanding how this Draft Concept Plan will influence the transfer and establishment of the refuge. The following are documents in the transfer of management responsibilities for and jurisdiction over the Jefferson Proving Ground.

SELECTED ARMY PLANS

Base Closure EIS	Consistent with the Base Realignment and Closure Act of 1988, PL-100-526, the Secretary of the Army is in the process of completing an Environmental Impact Statement for the closure of the Jefferson Proving Ground. The three DEIS alternatives offered by the Army are: 1) No Action, Caretaker status; 2) Encumbered Transfer of Land with Use Restrictions and Limited Clean Up and 3) Unencumbered Transfer of Land (with full cleanup) The Preferred Alternative by the Army is an encumbered transfer. Several entities are identified to receive jurisdiction of the land. In addition to county jurisdiction, the primary recipient of land (47,000 acres) is the Secretary of the Interior to manage the area as a national wildlife refuge. The NEPA process of the Army is serving as the vehicle for public involvement in this land transfer process.
BRAC Cleanup Plan	Independent of the EIS process is an environmental restoration effort at JPG. A Base Realignment and Closure (BRAC) Cleanup Team is preparing the second version of the BRAC Cleanup Plan. The Plan addresses regulatory and public concerns and will plan remediation based on the priorities established by the community for reuse of JPG. Environmental Protection Agency (EPA) Region V and the State of Indiana are represented on the BRAC Team.
Explosives Safety Submission	The primary purpose of the Explosives Safety Submission is to demonstrate that the property to be released does not pose an unacceptable risk to the future owners of the property. It also demonstrates that UXO clearance will be conducted safely. The submission will be done after the Huntsville Division does sampling at JPG. It will include maps of areas to be cleared of UXO, future land uses, historical use(s), UXO descriptions, clearance depths and a summary of deed restrictions to be placed in land transfer documents.

SERVICE PLANS

There are three primary Service documents prepared by the Division of Realty to establish a national wildlife refuge. The Decision Document includes several sub plans including this Draft Concept Plan. These are:

Preliminary Project

Proposal (PPP)

Following the decision to close the base, the Service prepared a Preliminary Project Proposal (PPP) which was signed by the Deputy Director on March 3, 1994. This authorized the Regional Director to proceed with detailed planning to establish a national wildlife refuge at Jefferson Proving Ground.

Transfer Application. The Service is currently preparing an amended application to the Army (Form 1334) requesting transfer of jurisdiction from the Secretary of the Army to the Secretary of the Interior. This agreement is processed through the U. S. Army Corps of Engineers District in Louisville, Kentucky and includes options on proposed county lands within the project boundary if these lands are not developed in 25 years. The Service has requested a (no cost) transfer from the Department of the Army. The Army has advised the Service that it will retain permanent liability for all contaminants, hazardous wastes and unexploded ordnance. Any remediation costs required would be borne by the Army.

Decision Document. In addition, the Service's Division of Realty is also preparing a Decision Document for the Regional Director's signature which will officially establish the proposed Jefferson NWR. This decision document can not be completed until several other compliance documents and decisions are made. These are:

1. Completion and approval of the Dept. of the Army Final Environmental Impact Statement (FEIS).
2. Completion of the Transfer Agreement.
3. Interagency Agreement. Instrument to document the transfer of funds and/or management responsibilities between the Secretary of Interior and the Secretary of the Army. Liabilities, obligations and other management activities related to unexploded ordnance will be clearly defined.
4. Draft Refuge Concept Plan. Documents refuge land use for approval by the Defense Department Explosives Safety Board (DDESB) or to obtain a Secretary of the Army waiver of the requirements established by the DDESB regarding use and transfer of JPG.
5. Completion of other traditional compliance documents necessary for the establishment of a national wildlife refuge including: Section 7 Consultation, cultural resource review, contaminants report and others.

SECTION 2. ISSUES AND CONCERNS

Several major issues influence the development of the Refuge Concept Plan. The following is a summary of each. Some will have to be resolved before the plan can go forward and most will act as parameters for the plan. Recommendations in the plan will address several of the issues.

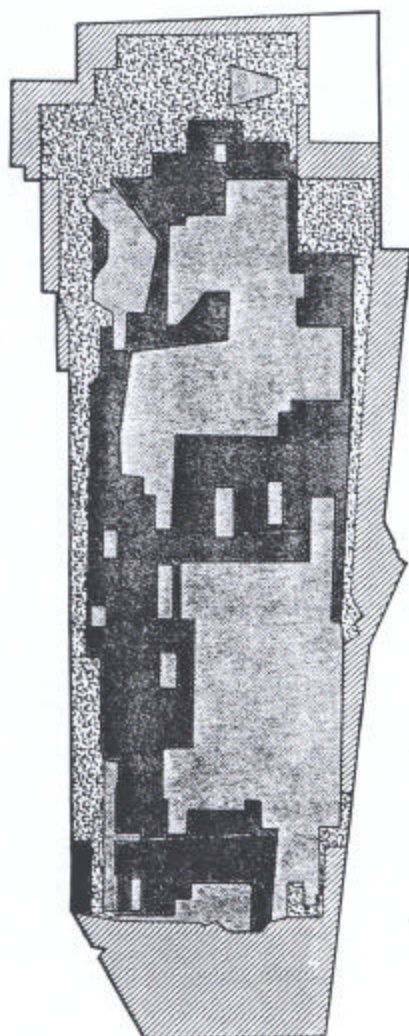
2.1 Keeping People Safe and out of the Most Hazardous Areas is a Perpetual Responsibility.

Jefferson Proving Ground has been used by the military for 53 years as a place to test ammunition fired from the ground and from aircraft. An estimated 1.5 million pieces of unexploded ordnance (UXO) are scattered in varying densities and depths throughout the area. UXO projectiles are live rounds or have live fuses or spotting charges which may explode if disturbed. Because of the extent of land contaminated by the UXO, the cost for clean up is prohibitive. Estimates exceed \$16 billion to remove trees , search soil and dispose of dangerous and inert material. Few methods exist to accurately and efficiently locate UXO in this type of environment. Existing methods are expensive and highly destructive to natural habitat. Demonstration and research for the accurate detection of UXO is currently underway at JPG and elsewhere.

The transfer of JPG to the Service is greatly impacted by the presence of the UXO. Under management as a national wildlife refuge, the safety of the public will be the highest priority in managing the land. Keeping people out of the most hazardous areas will be an ongoing and very costly management responsibility. Management of wildlife and vegetation will be minimal and conservative. Additional studies will be necessary to determine what management techniques are necessary for the protection of natural resources and which techniques are compatible with UXO.

The Center for Excellence on UXO research in the Huntsville District of the Army Corps of Engineers has recently been hired to do historical record searches and additional site specific investigations at JPG. This effort will provide the best data to date and will help determine remediation plans for specific areas identified in the Draft Refuge Concept Plan.

Map: Unexploded Ordnance Distribution
2



Legend

Shading	Level	UXO Total	Acres	UXO/Acre
	Very High	1,428,000	16,800	85
	High	60,000	15,000	4
	Medium	9,500	9,500	1
	Low	128	12,800	0.001
	None	0	1,100	0

2.2 A Decision on Surface Remediation and Future Uses Allowed by DDESB.

A critical step in the transfer of JPG from the Army to the Service is meeting the standards placed on the transfer by the Defense Department Explosives Safety Board (DDESB). The DDESB has identified a general remediation process necessary for transfer of lands and secondary uses (Draft Chapter 12, DOD 6055.9). An initial meeting with the board revealed these standards identifying the depth of remediation required for various reuse activities. In general, a wildlife preserve is listed as requiring remediation depth of 1 foot, a parking lot at 4 feet deep and construction activity, 10 feet. The current interpretation requires 1 foot clearance of UXO for any public use to occur.

Listed in the Draft Standards is the concept of "surface remediation". Human use associated with this category has not yet been determined. Surface detection and removal, according to some, may be safe in certain low density UXO areas. How much risk is acceptable, and how accurate is surface detection, are key questions. A one foot deep surface remediation effort that preserves vegetation has been implemented at Fort Meade in Maryland. This precedent will be looked at to see if it is appropriate for JPG.

A decision on surface remediation and the level of subsequent human use is critical in the JPG situation.

Remediation and safety concepts will be discussed based on the public uses proposed for the Refuge. It will be up to the DDESB to approve, modify or reject these plans. If rejected, a waiver request could be submitted to the Secretary of the Army or the project could be dropped.

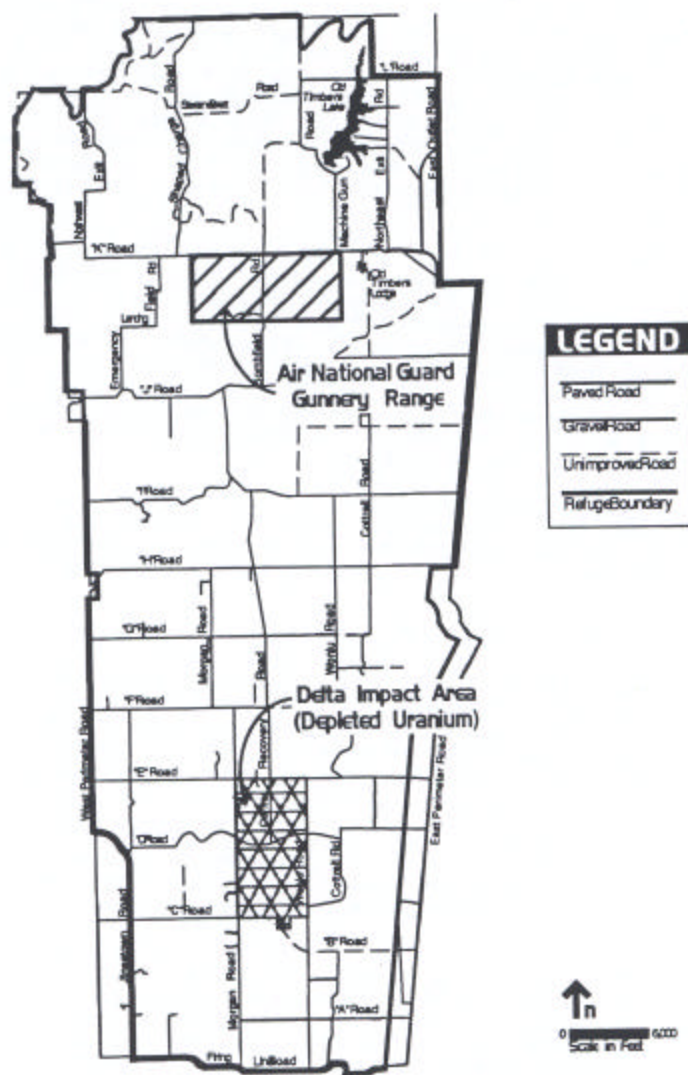
2.3 Funding Refuge Operation, Maintenance and Safety

The Service has enacted a moratorium on staffing new refuges. This moratorium will prevent the placement of new staff at the Jefferson Refuge for an undetermined amount of time. Also, numerous proposed budget reductions will prevent the Service from providing basic operation and management support for JPG. Because of UXO, the area requires high cost, long-term safety and security measures that are beyond the capacity of the Service alone to provide.

There is a need to research, monitor and protect the forest ecosystem and the rare species known to exist on the area. This may be especially important where cleanup efforts will take place, i.e. depleted uranium site, hazardous waste sites, demolition area etc.

Army funding will be needed for the safe and proper transfer of land management responsibilities.

Map 3: Locations of Depleted Uranium Site and Air National Guard Gunnery Range



2.4 Depleted Uranium Site

Within the Jefferson Proving Ground is the Delta Impact Area, a two square mile testing range contaminated with depleted uranium used to manufacture armor piercing projectiles. Soft target testing of shells made with depleted uranium at JPG is licensed by the Nuclear Regulatory Commission (NRC). Termination of this license by the NRC under a restricted access closure will take about two years as NRC will be required to prepare an environmental impact statement. The transfer of the Delta Impact Area cannot take place until this license is terminated. During the two year period, the Army would like to enter into a lease agreement with the Service, effective September 30, 1995. The Army will assume any cost associated with the delicensing of the area including long term monitoring.

A restricted termination of the license, favored by the Army, would mean that the DU projectiles would be left in place and human access to the area would be restricted. The EIS will compare alternatives, including release of the testing range for unrestricted and restricted use. Information related to the human and environmental risks associated with UXO and depleted uranium remediation will be documented, along with plans and procedures for restricting access to the testing range after closure of JPG.

Service concerns related to the above include the need for an in-depth study of the radioecological aspects of the depleted uranium. This would help document potential plant to animal transfer and potential bioaccumulation in wildlife.

A second Service concern is the consistency between UXO related restrictions to public use and NRC restrictions. Because this area occurs in the Closed Area, the restrictions should be similar. Other safety precautions proposed such as maintaining the perimeter fence, road closures and interior fencing will need to be coordinated between agencies.

2.5 Continued Indiana Air National Guard Activities

In the north central portion of JPG is an active 1033 acre air-to-ground bombing and strafing range used by the Indiana Air National Guard and others. Almost daily, fighter jets come into this area from five states to test shooting accuracy. This activity is not compatible with the primary purpose for which the land will be acquired, therefore this "inholding" will not be transferred to the Service until such a time when the flight activities are terminated.

Potential conflicts exist between the Public Use Plan and the Air National Guard activities. People using adjoining areas for wildlife oriented activities would be subjected to the noise generated by low flying jets. Aircraft activities require the temporary and possible permanent closure of K Road, a main crossroad in the northern third of the area.

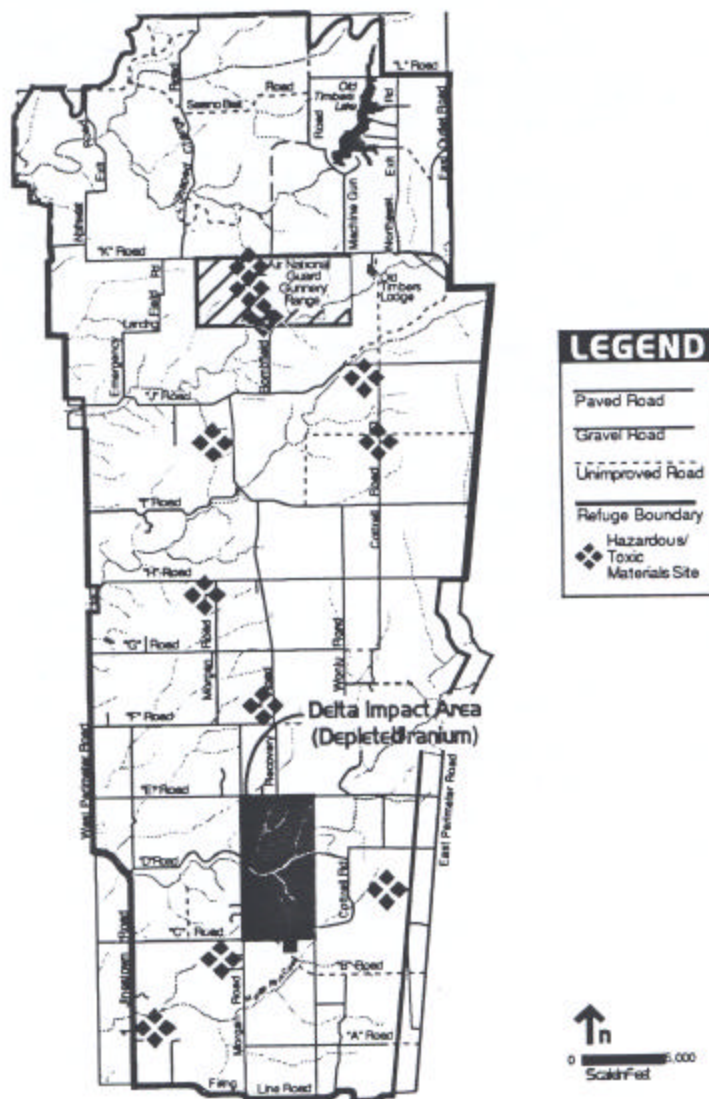
Because of the proximity of the public use area and the range, consideration was given to moving the range to another location further south on JPG. The cost and complexities of moving the air space are high. In the short term, public use and/or Air Guard activities could be scheduled to reduce conflicts. Future planning efforts will need to look at this issue to determine if relocation of the range to a better location is feasible.

The 1033 acre range will be excluded from the transfer of land based on the decision that the activity is not compatible with the refuge. This inholding will exist until such a time when the range is no longer needed and the land can be transferred to the refuge.

2.9 Status of EPA Decision To List UXO as a Hazardous Waste

The outcome of this decision could have a significant impact on the transfer of land to the Service. It is not known what the implications would be if UXO became listed as a hazardous substance after transfer. If listed as a hazardous substance, cleanup efforts and jurisdiction would increase in complexity and magnitude. A proposed ruling may be issued in 1995 with a final decision sometime in 1996.

Map 4: Solid Waste Management Units North of the Firing Line



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2.6 Deer Population Management

One of the more difficult aspects of this plan is the conflict between public access to control the ever increasing population of white-tailed deer and the safety measures required because of UXO. Continuation of the deer hunt is considered essential because of the potential for overpopulation if deer are not harvested. Overpopulation would result in the destruction of understory vegetation and the degradation of habitat for deer as well as most other species of wildlife. Safety is and always will be the primary concern in allowing access to JPG for deer hunting and other recreational activities.

The safety record of the existing recreation hunting program has been outstanding and demonstrates that safety concerns can be successfully addressed with a cost efficient program. The refuge deer management program would contain similar and in some cases more restrictive safety measures than the past hunting program on the base.

2.7 Future Planning and Public Expectation for Access

All units of the National Wildlife Refuge System are required to prepare a Comprehensive Management Plan to guide management decisions and communicate management and development intent to the public. To accomplish this, additional planning and public involvement will be required for the Jefferson Refuge. Public expectations for and pressure to visit the refuge may increase as a result of this process. Limitations to public access should be made very clear from this point forward. Economic benefits from recreational use will correspond directly to the activities and the areas determined safe to open to the public and the Service ability to manage a public use program.

The development of this Draft Concept Plan should fulfill the preplanning step of the Comprehensive Management Plan process. A strategy for future planning will be developed that describes the timing and extent of planning needed for the refuge.

2.8 Solid Waste Management Units

The Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and amendments require the Army to identify and disclose all known storage, release and disposal sites of hazardous substances. Several studies have been conducted to date related to this issue however a comprehensive baseline study has not been done for proposed Refuge lands (north of the firing line).

Preliminary studies show twenty two individual solid waste management units north of the firing line. One site, JPG -26, referred to as "Gate 19 Landfill", has been excluded from the refuge proposal. Four other sites will be investigated further by a Service contaminant specialist to determine if these or other areas should be excluded from the land transfer.

Further investigations are needed on the proposed refuge lands. The Service will continue to work closely with the Army, Environmental Protection Agency and the State of Indiana to coordinate the identification and remediation of hazardous substances on proposed refuge lands.

EPA will require access restrictions under its license for storage of hazardous waste.

SECTION 3. PLANNING ASSUMPTIONS

- 3.1 The Army will retain permanent liability for all contaminants or hazardous wastes and unexploded ordnance generated by the Army and any remediation costs required would be borne by the Army.
- 3.2 An inter-agency agreement will be signed between the Service (or Department of the Interior) and the Army that provides long term support or funding for public safety at the proposed Jefferson refuge.
- 3.3 Although additional UXO identification, research and limited remediation will be done over the next several years by DOD, it is recognized that much of the UXO will never be removed requiring high density areas to be permanently closed to human use.
- 3.4 Non-terrain disruptive activities such as hunting, fishing and wildlife observation will be allowed in selected low hazard areas identified by the Army.
- 3.5 Selected JPG staff will remain at the installation under contract to help the transition from proving ground to national wildlife refuge. The specific number of staff and terms will be identified in the interagency agreement.
- 3.6 Public use boundaries presented in this plan will be revised based on results of new UXO studies.
- 3.7 Visitor use will be phased in over several years according to the ability of the Service to maintain safety precautions and provide adequate staff to manage both environmental and public programs.
- 3.8 Education and training of refuge visitors, staff and volunteers on the hazards of UXO will be supported and funded by the Army during the transition phase as a way of starting the refuge safety program.
- 3.9 Law enforcement jurisdiction will change from exclusive to concurrent.

SECTION 4. DRAFT REFUGE CONCEPT PLAN

4.1 Summary/Overview

4.2

Satellite imagery of the Jefferson Proving Ground reveals a massive forest island surrounded by farms and woodlots. The size of the proposed refuge landscape and the wildlife attributes provide a rare opportunity to protect a large functioning forest ecosystem in this region of the country.

Large blocks of contiguous, closed canopy forest are rapidly disappearing in the face of the demand for timber products and changing land use. This phenomenon appears to be detrimental to the well-being of neotropical migrant birds that nest in forest interiors. Recent research shows that the significant decline of area-sensitive wildlife species populations can be attributed to the ongoing fragmentation of the landscape.

Within the three state area of Ohio, Illinois and Indiana, 90 per cent of all forested tracts are less than 500 acres in size. Only 101 forested tracts, out of a total of 28,670 in those three states, are larger than the approximately 11,000 acre contiguous forest tract at the northern end of the proposed refuge. As other forest habitat throughout the entire 47,000 acre refuge is allowed to fill in and mature, biologists contend that the refuge will be unparalleled in its ability to protect and sustain many imperiled wildlife populations in future decades.

A 1994 Feasibility Study for the reintroduction of river otter in Indiana ranked habitat in the Muscatatuck River Basin and the Jefferson Proving Ground as second highest value in the state because of very high quality instream and bank habitat and large contiguous tracts of palustrine forested wetlands. Protection of water quality both on the proposed refuge and within the watershed is critical to maintaining the health of recently released river otters and habitat quality within the downstream Muscatatuck National Wildlife Refuge.

A preliminary Service biodiversity ranking for the proposed refuge indicates that it could exceed that of any of Region 3's presently approved acquisition projects. Over 100 species of birds have been documented during the breeding season, nearly 50 % of them neotropical migrants. Included among the latter are cerulean and golden winged warblers, both of which are listed among "migratory nongame birds of management concern in the United States." Preliminary research on wildlife and plant populations have discovered twenty-nine species of state or federally listed plants and six state or federally threatened or endangered animal species inhabiting the proposed refuge.

Protection and enhancement of wildlife resources at Jefferson Refuge will have to be done within the limits created by the existence of unexploded ordnance. The refuge will require some unusual restrictions on public access and natural resource management activities. These restrictions may prohibit terrain-disruptive activities such as cross country vehicular travel, agricultural practices, tree cutting and certain public use activities such as horseback riding. In addition, large areas will be closed to all human entry, possibly as much as 30,000 acres. A conservative and passive approach to both public use and fish and wildlife habitat management is necessary and recommended for the proposed Jefferson Refuge.

All of the factors above have contributed to the military's impeccable safety record. Many of these same safety measures by the military will need to be continued under refuge management.


4.3.1 Safety Overview

Visitor safety will be top priority for the refuge. To ensure visitor safety, the Service will request the Army to remove unexploded ordnance in areas proposed for public use activities. Even with the proposed remediation efforts, specific safety procedures will be followed by Service staff and volunteers who will guide and oversee all visitor programs.

A final safety program will be worked out between the Army and Service with guidance from the DDESB. Many decisions regarding safety are contingent upon other decisions such as UXO remediation and funding for safety oriented facilities such as the perimeter fence and maintenance of signs.

All visitors will be required to have basic information on site history, the hazards of UXO, restricted area locations and emergency procedures prior to recreating at the Jefferson Refuge. An exception will be those visitors who participate in guided bus tours. All others will be required to obtain an annual pass based on participation in a safety class. Hunters, staff and research visitors will have additional training requirements to enter the restricted access areas. All visitors will be required to sign a waiver acknowledging their awareness of the hazards.

Jefferson National Wildlife Refuge
Condition of Entry and Liability Waiver



I, the undersigned, hereby agree to observe all applicable Refuge regulations and circulars and all Indiana Wildlife and Fish laws. I am fully aware that all activities are at my own risk, and in consideration for the permission to participate, I relieve the Government of all responsibility and liability for any damages or injuries that may occur.

I am fully aware that there are hazards, including unexploded ordnance, which may be encountered.

I further agree not to enter any area except those that I have been authorized to enter.

I certify that I have received a map and applicable regulations.

SIGNATURE

DATE

FULL ADDRESS INCLUDING ZIP CODE

Sample Waiver Form

Education is recognized as a valuable tool in preventing injuries from UXO. Like other potential hazards inherent in natural area recreation such as poisonous snakes, poisonous mushrooms, and hunting accidents, visitor safety awareness and education can help prevent accidents from occurring.

Several locations around the world have implemented education programs to help people identify UXO and understand the hazards and appropriate response when encountered. Some of these programs will be looked at and the best techniques available in visitor education will be applied.

4.2 Purposes of the Refuge

The proposed Jefferson National Wildlife Refuge will be transferred from the Army through the authority this act: "An Act Authorizing the Transfer of Certain Real Property for Wildlife, or Other Purposes. 16 U.S.C. § 667b". The purpose of the proposed Jefferson Refuge is based on this act:

- A. "Particular value in carrying out the National Migratory Bird Management Program".

Service Objectives for the Refuge Include:

- *To conserve fish, wildlife and plants listed as endangered and threatened*
- *To protect, restore and manage the eastern deciduous forest ecosystem through the conservation and enhancement of plant and animal biodiversity.*
- *To provide nesting and migration habitat for forest-interior species by protecting and restoring large blocks of forest habitat and managing for mature and old growth forest.*
- *To provide limited public opportunities for wildlife-oriented recreation*
- *To provide research and educational opportunities with emphasis on forest interior species and forest interior habitat.*
- *To provide nesting and migration habitat for grassland birds.*

4.3 Public Use Concept

Based on the previously stated planning assumptions, the Service proposes this concept for long-term public use program envisioned for the proposed Jefferson Refuge. The intent is to provide decision makers with enough information to facilitate the transfer of land from one agency to the other. The plan will be refined based on new information that will become available. It will be implemented in phases over several years dependent upon the remediation efforts proposed by the Army and the ability of the Service to staff the refuge.

For over 50 years, the Army has managed a variety of recreational activities on JPG. Total annual recreation visits in recent years are close to 20,000. Jefferson Proving Ground visitors participated in a variety of activities including fishing, hunting, picnicking, mushroom and berry picking, and use of Old Timbers Lodge. One of the most important activities is the deer hunting program which involves 1400 hunters each year harvesting 500-600 deer.

There has never been a visitor injury or accident from UXO under the Army's recreational programs. The Service has looked at the existing recreation programs to help define a similarly safe refuge public use program. The key elements of the existing program include:

- Limiting the total numbers of people and the kinds of activities
- Locating activities in nonrestricted "safe" zones
- Providing hazard and safety education
- Controlling access with gates and perimeter fence
- Providing maps, signs and other information
- Providing an enforcement and security presence
-

Safety Plan

Refuge staff, with assistance of the Army, will develop a Safety and Emergency Response Plan. This plan will contain complete instruction for emergencies, precautionary measures concerning UXO, and safe procedures for the conduct of refuge operations. This Safety Plan will be reviewed thoroughly by every refuge employee, volunteer or contract worker.

Incorporated in this plan will be specific job hazard analyses for all refuge management activities to be conducted in the restricted portions of the refuge. The job hazard analyses is a systematic method for breaking down a job or activity into basic steps, listing the tools and equipment used, examines each step for potential hazards, and documents how each element of the work can be performed to prevent accident or avoid hazard. Even normally routine tasks such as placing a sign post will be analyzed using the job hazard analyses format.

The Safety Plan will also document established procedures for emergency response in the event of an accident, and will document what processes will be set in motion should UXO be found on the refuge. Periodic monitoring of the safety program will be necessary for ensure its effectiveness.

4.3.2 General Site Security

Enforcement

The existence of unexploded ordnance at the proposed Jefferson Refuge will make it necessary to maintain a secure area where public entry can be monitored and controlled. This effort is necessary regardless of whether the Army continues jurisdiction over the land or jurisdiction is held by another agency.

Enforcement of refuge trespass and other public use violations will be the responsibility of commissioned refuge law enforcement officers. Refuge officers are authorized to protect Service property and enforce wildlife and public use laws and regulations as directed. Most of the statutes and regulations which refuge officers enforce are codified in Chapter 50 of the Code of Federal Regulations. Violations are processed through Federal and/or State courts. Cooperative agreements will be signed by the Service and state and local enforcement agencies to assist in the conduct of law enforcement activities on the refuge. To do this, law enforcement jurisdiction will need to be changed from exclusive to concurrent.

Perimeter Fence

The perimeter fence and will be maintained as the best way to control illegal or accidental trespass. Although costly to maintain, the fence will provide a clear visual boundary to people and law enforcement personnel.

Gate House

Daily and annual entrance passes will be obtained at a new refuge gate house proposed for the northeast corner of the refuge. At this single public entry, all visitors will be provided a fact sheet on UXO and be required to sign a waiver. This fact sheet, in combination with on-site exhibits and displays on UXO will reinforce a message of caution and safe use of the refuge, and be a constant reminder of the prohibitions against trespass into the restricted and closed portions of the refuge.

Sign System and Visible On-Site Boundaries

Clearly recognizable boundaries are critical in order to keep people from entering the most dangerous areas. Currently, many but not all of the interior closed areas are defined by roads streams and mowed firebreaks. The Closed areas will require additional signs at close intervals to clearly mark their limits. Certain highly dangerous areas may need additional interior fencing to maintain an added level of safety.

A careful evaluation of the restricted and closed area boundaries will be undertaken to make sure that each unit is clearly marked. It will be important for visitors to know where they are at any given place. A sign system will be designed and implemented that reinforces the on-site orientation of the user.

Safety signs such as "DANGER, RESTRICTED AREA" and "DANGER, DO NOT ENTER" will be installed at close intervals in appropriate areas throughout the refuge.

Site Communications

Direct communication will be maintained throughout the refuge by two way radio and cellular phone systems. All Service personnel will carry portable radios which link them to the Service and police networks. This will facilitate both routine communications and requests for assistance.



Graphic Illustration of Signs

4.3.3 Activity Zoning Concept

A major proposal for the refuge is to divide the area into three zones with varying restrictions for habitat management and public use. The concept is based on the current recreation program at JPG. The Army generated map, Map 4, illustrates a zone the JPG staff consider to be relatively safe areas for recreation. This map has evolved over several years based on munitions records, staff knowledge and on-site investigations. It is considered to be the best information available to date on the extent and hazards of UXO. As additional UXO information becomes available the boundaries of the proposed Use Zones will be revised.

The Service proposes three zones: 1) Old Timbers Public Use Area (Limited Use primarily north of K-Road), 2) Restricted Access Area (south of K-Road) and 3) Closed Area.

Zone 1: Old Timbers Public Use Area (11,070 Acres)

This area is generally regarded as the "best" area of the refuge. It is the most scenic; has high habitat value in terms of contiguous mature forest; has several significant historic sites including the Old Timbers Lodge and two stone arch bridges; and includes the largest body of water on the refuge, Old Timbers Lake. But more importantly, this area is considered to be the least contaminated from unexploded ordnance.

Much of this zone has been the focus of past recreation activities offered by the Army including the only location where the general public has been allowed to deer hunt as part of a state lottery program. Fishing, hunting, camping and picnicking have been popular activities in this area. A group of current and former JPG employees, with sponsorship from the Army, have volunteered a great deal of labor to improve and maintain visitor facilities such as boat ramps, picnic shelter, parking areas and the Old Timbers Lodge.

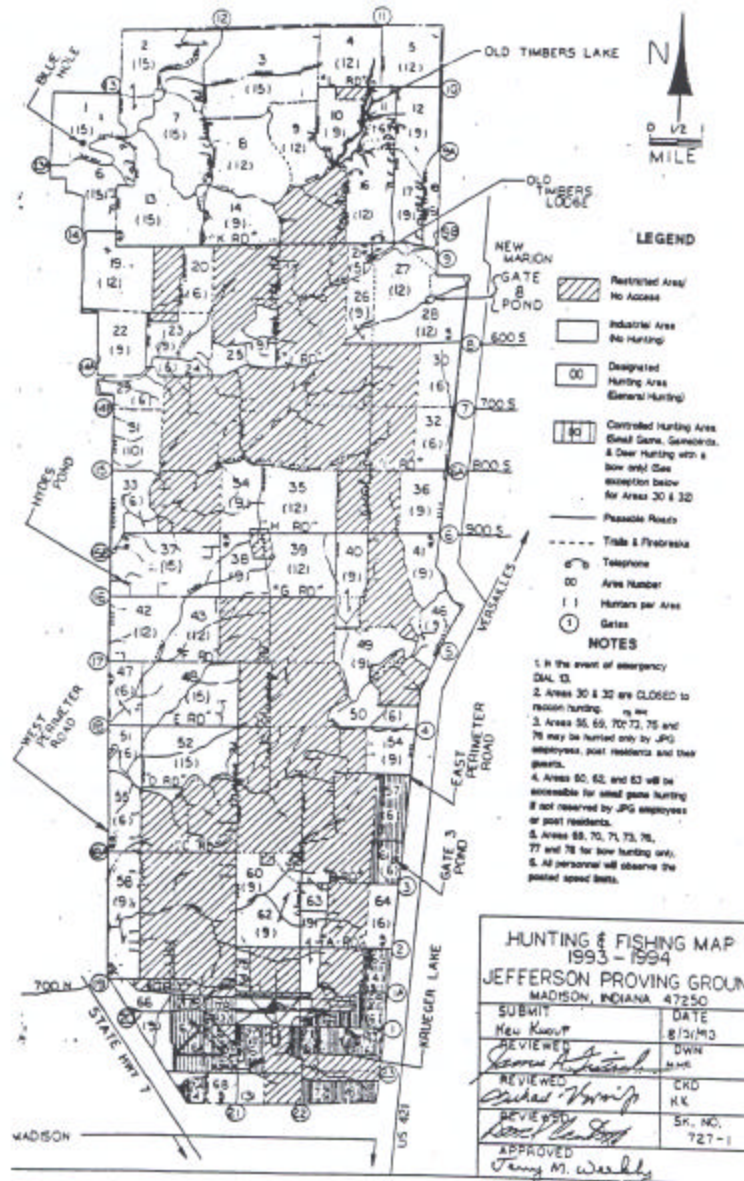
The Service proposes to continue many of the same uses in this area, eventually opening it up to the general public for day use activities only. Under refuge management, the public use program will be wildlife oriented with additional opportunities for wildlife viewing and interpretive education. The fishing program will be promoted, and facilities will be upgraded to provide universal and safe access.

To accommodate public use, safety measures will be necessary. Depending on decisions made regarding UXO, this zone may need to be surface cleared to a depth of one foot or more in some areas. An agreement between the Service and the Army at Fort Meade, Maryland contains language useful to this situation (and Zone):

"The surface ordnance survey to be conducted by the Army should detect ordnance located on or within one foot of the surface at Fort Meade. Any ordnance discovered will be removed by the Army at its cost." "The intent of the Army is not to clear cut any vegetation located on the said lands, but rather to selectively remove only the specific vegetation necessary, if any, which would otherwise prevent the removal of unexploded ordnance situated within one foot of the surface..."

The Service will request the Army to conduct a similar remediation effort in the Old Timbers Public Use Area.

Map 5: JPG Hunting and Fishing Map



Selected development /improvement of public use facilities can also reduce risk related to UXO. Widening the access road to Old Timbers Lodge and Lake, delineating parking areas with post and rail vehicle barriers and developing a two mile hiking trail all serve the public need for safe and definitive access in areas with some history of contamination from unexploded ordnance.

Clearance of unexploded ordnance will probably be required for these specific areas where construction activities are proposed. The depth will be determined.

Decisions regarding UXO removal are yet to be made for JPG. The decisions will be based on the refuge proposed uses, historical records and Explosives Safety Board recommendations.

Summary of activities proposed for the Old Timbers Public Use Area:

<u>Public Use</u>	<u>Refuge Management</u>
<ul style="list-style-type: none">• Fishing• Wildlife Observation• Non-motorized boating and Canoeing• Deer, Small Game and Turkey Hunting• Nature Trail Hiking• Mushroom and Berry Picking• Use of Old Timbers Lodge for EE	<ul style="list-style-type: none">• Biological Research• Endangered Species Protection• Limited Prescribed Burning• Active Forest Restoration• Plant and Animal Surveys• Exotic Plant Control• Cultural Resource Protection• Environmental Monitoring• Facility Maintenance• Entry Gate Staffing

Zone 2: Restricted Access Area (Deer Hunting Only)

Public use throughout the remaining refuge will be restricted by the closure of roads, locked gates and the addition of signs clearly informing people where they can and cannot go. The Restricted Access Area is intended for researchers studying animal and plant populations, management staff performing occasional resource management activities such as controlling exotic vegetation or prescribed burns and mowing and inspection of the perimeter fence. A controlled deer hunt will also take place in this zone.

A Special Use Permit will be required for all persons entering the Restricted Access Area. Each permit holder will be required to pass a competency test on the identification of UXO and safety precautions necessary while inside this area. Activities will be monitored by security and enforcement staff. Violations will mean permanent revocation of permits. Refresher training will be required each year. A geographic information system (GIS) will be used to retrieve specific information for and about the sub compartments in this zone. Research activities, hunting and management activities will be modified and updated based on cumulative data collected for each sub area. This zone is very similar to the existing JPG recreation hunting areas south of K-Road, however, it is more restrictive in acreage available and the educational requirements.

UXO remediation in this zone will be discussed with the DDESB.

Summary of Activities Proposed for the Restricted Access Area:

Public Use

- Deer Hunting
- Occasional Guided Bus Tours on existing roads

Refuge Management

- Biological Research
- Endangered Species Protection
- Limited Prescribed Burning
- Passive Forest Restoration
- Plant and Animal Surveys
- Exotic Plant and Pest Control
- Cultural Resource Protection
- Environmental Monitoring
- Road, Sign & Fence Maintenance

Deer Hunting.

A deer hunt at the Jefferson Refuge is the most cost effective and popular method to control its population of deer. In a sense it is an example of how hunters can help managers with protecting the health of the herd and the health of the forest.

A deer hunt at JPG has been proven to be safe under the past military program and can also be safe under Refuge management as well. A highly controlled hunt will be necessary, one that limits the numbers of hunters, restricts the areas open to *hunting and* requires education to participate.

During the late 1980s and early 1990s, increased hunting efforts brought the JPG herd down to a stable level. Recently, approximately 500 deer have been harvested each year. Biological data indicates that taking that many deer every year is sufficient to control the herd. Currently, 4500 hunt efforts are used to harvest 500 animals. Those hunting efforts currently include muzzleloader, shotgun and archery.

Within the following guidelines, 500 deer could be taken each year using only 3,000 firearm efforts. A more efficient hunt with fewer hunters would be easier to manage and provide a somewhat safer situation. Firearm efforts would include muzzleloader and shotgun. The proposed hunt would include:

- 500 hunters a day for 2-day hunts. Four successive 2-day hunts, during the eight
- days prior to the statewide firearm season. Each hunter can take 2 deer of either sex. Hunters would be distributed throughout the area in densities outlined in the
- current JPG Hunting and Fishing Map. Hunters will be required to attend a
- UXO/safety course and pass an exam covering those subjects before being allowed to hunt on JPG.
-

JPG staff and volunteers currently handle about 500 hunters on opening day of firearm season with six (6) persons in the morning and eight (8) in the afternoon as hunters check out.

Removing less deer than 500/year would allow the herd to increase significantly and future efforts to control the herd would also have to increase significantly. To date, JPG has not exhibited vegetation damage from the deer herd, nor have there been crop damage reports from adjacent farm operators. Without an adequate hunting program natural vegetation and crop damage will become a problem quickly.

Guided Bus Tours. If demand exists, a tour route will be designated south of K-Road to provide the opportunity for the public to see former military lands, pre-military historical features and observe wildlife. Spring migration and fall colors would likely be popular times for tours. People would be required to stay on the bus except for a break at a safe mid point of the tour and a stop at Old Timbers Lodge.. This activity will be studied further to see if a private tour company would be willing to provide this opportunity.

Zone 3: Closed Area

Due to the unsafe nature of this area, no entry will be permitted except on existing roads through these areas. Signs posted at 500 foot intervals along the perimeter road will clearly identify the boundaries of this zone. Some interior fencing may be required along roads which pass by or through particularly hazardous areas. Refuge monitoring of animals and plants will be by remote sensing and from old road corridors bisecting some of these areas. Access for management staff and research will be limited to road corridors primarily for emergency situations. For this reason some of the roads should be maintained for occasional and emergency travel. Narrow roadways which allow the tree canopy to enclose them, are most compatible with the needs of forest interior birds.

Public Use

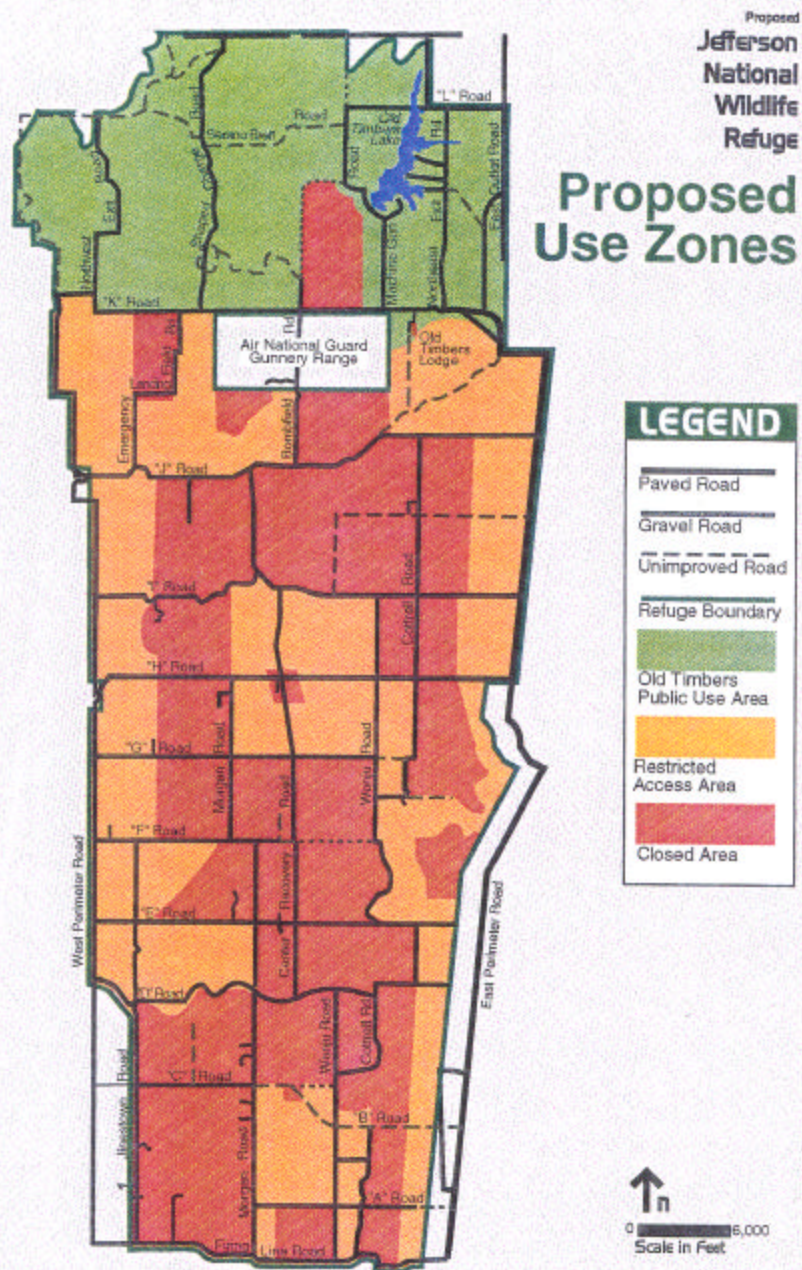
- None
- (Except Bus Tour on Existing Roads)

No UXO remediation is anticipated.

Refuge Management

- None - Habitat monitoring by remote sensing and windshield surveys
- Emergency Access

Map 6: Proposed Use Zones



DRAFT

4.3.4 Road Closure Strategy

Within the proposed refuge there are approximately 140 miles of roads with 21 bridges in various states of repair. These roads pose many potential problems. There is high cost associated with maintenance, the road system fragments the forest, and some roads provide potential access where it is unsafe. Preliminary analysis has indicated that the network of roads could be significantly reduced and still provide the necessary access for management staff, safety patrols and hunters. Approximately 40-50 % of the roads can be closed or downgraded. Construction of gates, vehicle barriers and turn-a-rounds will be necessary to implement this strategy. In the long term, reducing the network of roads, especially near closed areas, will provide maintenance cost savings, safety benefits and will increase habitat for wildlife.

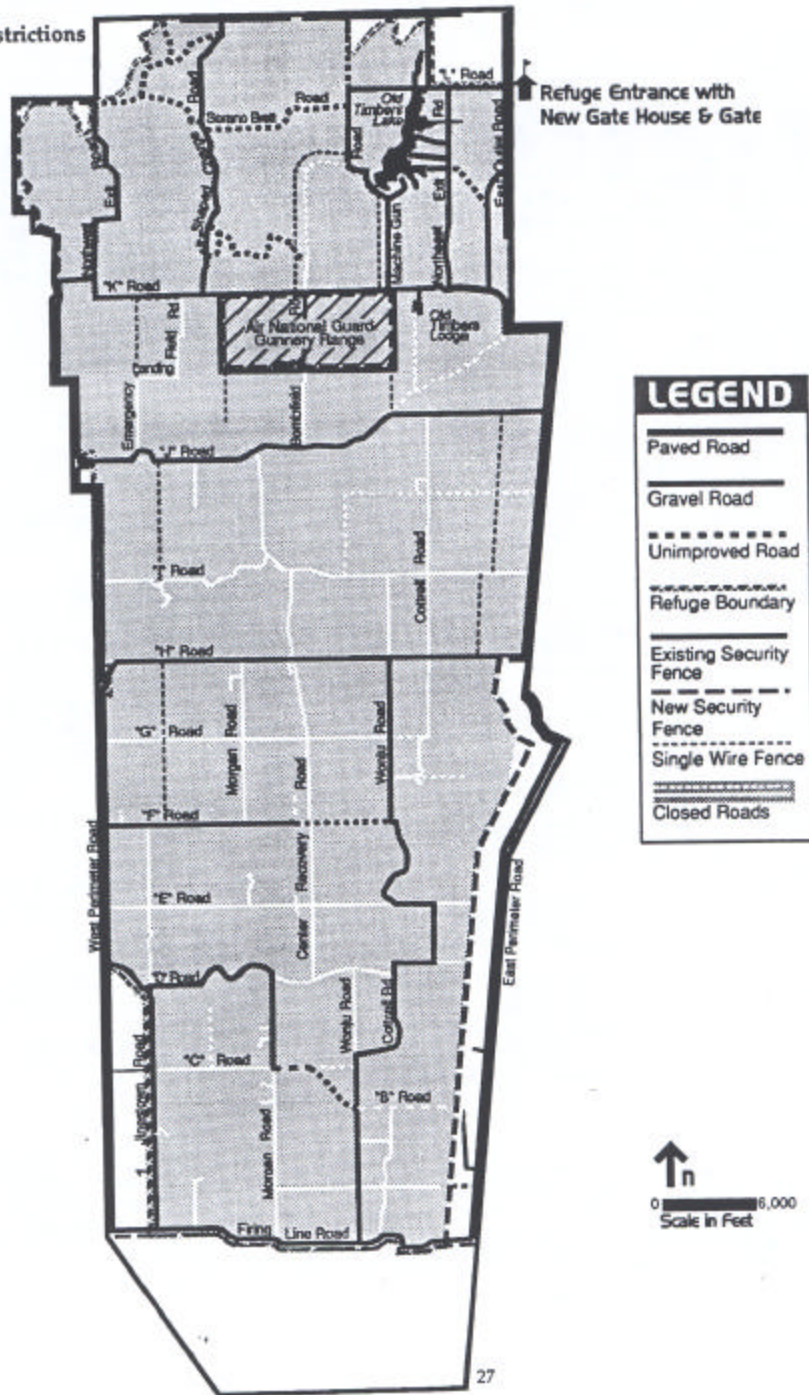
4.4 Summary/Conclusion

The Draft Concept Plan for the proposed Jefferson Refuge is summarized by the following points:

1. The refuge requires an aggressive safety program and relatively passive resource management. Because of UXO and environmental limitations, soil disturbing activities including, construction, logging and off-road vehicle use will be prohibited.
2. All public activities on the refuge will be controlled. Visitor activities will be confined to two zones identified by the army 1) Limited Use Zone and 2) Restricted Access Deer Hunting Zone. Visitor activities will be monitored and enforced.
3. Physical facilities such as the perimeter fence, parking vehicle barriers, gates and signs will be added and maintained.
4. Information and education will play a significant role in the safety of visitors at the refuge. A combination of formal training, displays, brochures and signs will be used to educate visitors, staff and volunteers.
5. Under refuge management the Service will protect and enhance the forest ecosystem found at the Jefferson Proving Ground. The refuge represents a significant opportunity for the conservation of nongame birds particularly neotropical migrants. The Refuge will also help to meet Service goals to conserve and restore biological diversity.

The next five years will be important transition years for converting this area from proving ground to national wildlife refuge. Sorting out the implications of unexploded ordnance related to management of a new refuge is best done in partnership between the Army and the Service. Overlapping responsibilities for this land calls for coordination, cooperation and a phased implementation of the plans.

Map 7: Access Restrictions



SECTION 5. PHASED IMPLEMENTATION

Unresolved issues associated with this project such as unexploded ordnance remediation, contaminant status and safety make it extremely difficult to take quick action especially with accelerating Government reductions in staff and funding. Therefore, it is both realistic and necessary to look at a phased transition of land management responsibility. Three phases are proposed based primarily on the anticipated time needed to resolve issues :

5.1 Phase I Planning and Agreement Phase (1995)

The Service and the Army will need to work together in order to implement the transfer of land. During the Planning and Agreement Phase the goal should be to accomplish the following:

- Base Closure and Final Reuse Plan
- Negotiate and Sign Interagency Agreement
- Define Safety Program and Obtain Waiver
- Finalize Refuge Concept Plan
- Transfer land and Establish the Refuge
- Construction of new South Fence and Fence Repairs

During this time frame, the Army will be responsible for safety, public use and public involvement including the finalization of an Environmental Impact Statement.

5.2 Phase II Transition/ Environmental Remediation Phase

During this phase, unexploded ordnance and **contaminant remediation** and the implementation of Safety program recommendations are the major activities.

Public use would be very limited. The Refuge will be in a planning and transition mode supported by a Transition Team made up of former JPG employees and refuge specialists. Their role will be to coordinate the many ongoing studies and prepare more definitive plans on how people and resources will be protected. The public will be kept informed of current and future actions by this team.

Safety and security measures will be constructed such as replacing /repairing the perimeter fence, upgrading roads, building the gate house, posting signs and improving parking areas. Little habitat, wildlife, or fishery management will take place except deer management and protection of threatened/ endangered plants and animals. Existing facilities will be used. Administration and maintenance will be from Muscatatuck Refuge and from an on-site Transition Team, supported by the Army and located in one of the existing buildings

During Phase II, the Transition Team will be responsible for.

- On-Site Coord. of Environmental Monitoring and Cleanup
- Conducting Fish and Wildlife Studies
- Implementation of the Safety Program Recommendations
- Coordination of all On-Site Activities
- Handling Public Relations
- Managing the Deer Population
- Development of the Refuge Comprehensive Plan

5.3 **Phase III Full Refuge Status**

This phase will begin when remediation efforts are completed and safety measures are constructed. This phase is also marked by an increase in Service staff to handle the added operation and maintenance responsibilities as the Transition Team is phased out.

Public use zones of the refuge are fully opened to the public for day uses such as hunting, fishing, wildlife observation, and trail hiking. By this time, perpetual use restrictions of the area are fully understood by public. Security and safety operations will continue on the refuge indefinitely.

If necessary, boundaries of use areas will be refined to reflect findings of unexploded ordnance studies and completion of remediation. Any unexploded ordnance found by staff or visitors will be reported to the Army for prompt removal.

Service land management activities will focus on forest habitat enhancement and monitoring of wildlife populations.

In the future, it is recommended that Old Timbers Lodge be updated to function as a visitor education facility.

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The U. S. Fish and Wildlife Service Team assigned to work on the Jefferson project:

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